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### Abstract of the Disclosure

The present invention relates to apparatuses for processing homogeneous/heterogeneous radioactive wastes comprising ion-exchange resins. A cooled discharge unit comprises a discharge pipe, a cooling jacket having a U-shape in cross section, a collector for feeding a coolant into the jacket, a discharge gate comprising a pipe, on one end of which a cone-shaped tip is positioned, on the other end a lid with an aperture. A cooled induction melter comprises a housing, side walls and bottom of which are made of metal pipes disposed with a gap therebetween and combined by a collector for supplying and discharging the coolant, an inductor positioned adaptable for displacement along the longitudinal axis of the melter and concentrically encompassing the side walls of the housing, the gaps between the pipes of which ensure transparency of the housing for an electromagnetic field of the inductor. The cooled discharge unit is positioned in an aperture, the height of which determines the minimum level of the melt, a portion of the side wall of which is a portion of the side wall of the housing, while another portion faces the melt.

An installation for vitrification of liquid heterogeneous radioactive wastes comprises a mixer, a doser of vitrification agent additives, a doser of heterogeneous liquid radioactive wastes, a vessel-accumulator provided with means for homogenizing components, a vortex apparatus, a water-cooled induction melter with a movable inductor, means for filtering waste gas, means for capturing gaseous toxic components.